

### Railroad Terminals and Public Sentiment.

The conditions to be met by a satisfactory railroad terminal in a city, the dependence of a city's commercial welfare on the possession of adequate railroad terminal facilities, and the mistaken and unjust attitude often assumed by the public toward the efforts of roads to expand these facilities to meet increasing commercial needs are discussed by Mr. S. D. Webster, General Claim Agent of the Terminal Railroad Association of St. Louis, in a paper on "The St. Louis Terminals, Retrospective and Suggestive," read before the December meeting of the St. Louis Railway Club. He said in part:

As mere common carriers, railroads can be held only to the transportation of goods from place to place. They may limit their facilities to the simplest provisions for accepting and forwarding, or of bringing in and delivering, the goods received for transportation. On this basis the provision to be made is far simpler than we find it in practice. Cost of transportation is an element of resistance, and commerce, following the lines of least resistance, seeks proximity to the railroad tracks for its manufactories and large industrial enterprises. But while these industries are served by the carriers they are, none the less, part of the city's business life, and the fostering and increase of all of them, large factors in every city's commercial prosperity. Because of this fact, railroads are not, and it is not desirable that they should be, restricted to a few tracks on which to load or unload goods, but are expected to meet certain commercial requirements by furnishing facilities to all such industries. This is not the normal function of a carrier, but rather that of a terminal or intermediary.

Now, as these commercial enterprises are part of the city's interests, it will be apparent to anyone who thinks of the matter that the needs of these industries are the needs of the city itself and of its people. They are not the needs of the railroads. It is the function of the roads to furnish transportation. That is what they have to sell, and it is all they have to sell. If transportation can be sold at a profit, they prosper; if not sold at a profit, they fail in business, just as happens with any other business selling any other commodity. They can furnish this transportation from their yards and houses, and require that all offerings of goods be made at such yards and houses. It may be seen then, that extended tracks leading to manufactories, the costly accessories incident to private enterprises which may be adjacent to railroads, large yards in different parts of the city, are all furnished to care for the needs of the city, rather than those of the roads.

Unfortunately, this fact has been lost sight of, and the common view is just the reverse of this. Attempts of carriers to enlarge facilities intended to serve the commercial needs of the city are viewed as efforts toward strictly selfish ends, resented as insults to the public dignity, condemned as damaging to property, whether near or remote, and every statement made by their promoters in urging them, treated with derision, if not positively contradicted as untrue. This antagonistic public sentiment should be corrected. In its place should be developed a correct understanding. Our people should accept, as a foregone conclusion, that where commercial interests require facilities which can be had only by the enlargement and extension of those which the railroads furnish, every possible encouragement must be given toward securing them. Public sentiment should be such as to force the municipal assembly to recognize such extensions and enlargements as needs of the city itself, and all of them as absolutely interdependent interests making for the city's commercial prosperity, the municipal recognition taking the form of prompt legislation in furtherance of all properly recommended means to the ends sought.

Room, more room, always, more room, is the crying need of a progressive road or a progressive terminal, in a progressive city. To acquire the room, that the accommodation may be furnished, is the problem confronting all concerned. Every useless foot of track is an expense; but every lacking facility means a loss, both to the public and to the carrier. Can it not be made apparent to our people that it is essential to the city's healthful commercial life that the fullest liberty compatible with the public safety be accorded the carriers for the acquirement of grounds and the extension of facilities? May it not come to be understood that within certain territories, naturally tributary to and better fitted for railroad uses, the acquirement of such properties by the roads will be confirmed by prompt and effective legislation?

That this is essential may be illustrated by another retrospect. The ground on which the Union Station stands cost, approximately, one and a quarter million dollars. It was covered by dwellings, business houses, a soap factory, mill and brewery. Before moving for a franchise, all this property had to be acquired or an option for it secured. The merest whisper of what was intended would have sent the prices beyond reach. Instead of what was paid, the cost would have been three to four millions. If, after all, the franchise had been withheld, what would it have meant to those interested?

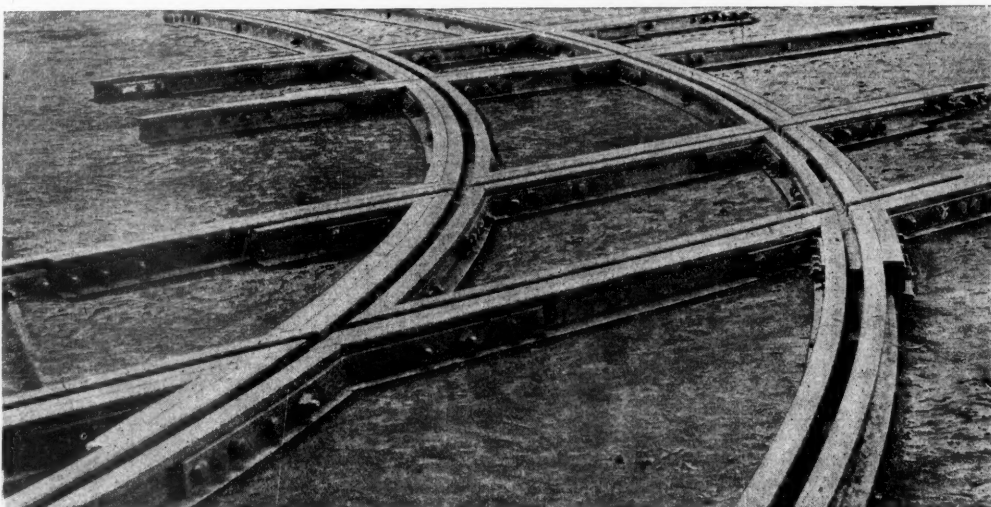
The same conditions exist to-day, and great sums of money, interests of vast importance to the city, enterprises of great moment, hang in the balance. Fear of a failure to secure legislation necessary to the effective use of all such purchases should be at once and forever eliminated. Within the territories indicated the roads should feel free to buy quietly in advance, with the assurance that efforts toward providing for the growing re-

quirements of its commercial interests would be sure of having the substantial support of favorable public sentiment in inducing municipal approbation. And the city's terminal system, which is to its commercial life what the heart is to the physical body, sending with each pulsation its currents through the arteries of trade to the outermost bounds of the country, should have a double share of the confidence and support of its people for the furtherance of ends which cannot be beneficial to itself without benefiting trebly the city.

### Special Crossings by the Indianapolis Switch & Frog Co.

A special piece of work made for the Springfield & Xenia Traction Company by the Indianapolis Switch & Frog Company, Springfield, Ohio, is shown in the engraving which is made from a photograph. This crossing of the Big Four is in Springfield, and is interesting because of the sharp curve where the crossing is made. All of the tracks have easier rails, which, together with the main rails, give width sufficient to carry the wheel tires and prevent their striking the ends of abutting rail intersections. This preserves the alinement and materially lengthens the life of the crossing.

This company, which makes T-rail special work of all descriptions for steam and electric railroads, such as frogs,



Curve and Tangent Crossing, Springfield & Xenia Traction Company.

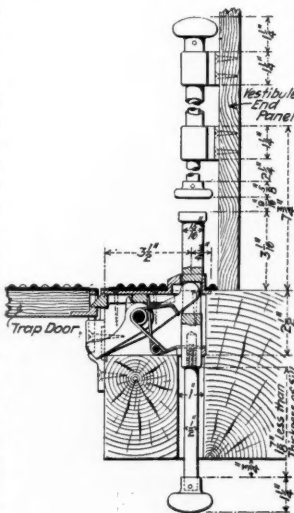
switches, switchstands, crossings, curves and car barn layouts, has recently completed a large addition to its plant, which, with the new machinery and tools added, doubles the capacity and gives them two acres of floor space under roof. The main building is 425 ft. x 225 ft. and is light and clean. The plant is in close proximity to the Big Four, Erie, Pan Handle and Detroit Southern roads, with a private track into the works, running through the main building; the shipping facilities are therefore excellent. The plant is busy in all departments, and is shipping its product to all points, large consignments having lately gone to the Pacific Coast and to Mexico. Also a large number of interurban lines in the East and in the Central West have been equipped with special work.

The officers of the company are: N. H. Fairbanks, President; M. L. Milligan, Vice-President; E. C. Price, Secretary and Treasurer; W. H. Thomas, Chief Engineer; G. S. Shaw, Superintendent of Construction.

### Edwards Improved Vestibule Trap-Door.

The O. M. Edwards Co., Syracuse, N. Y., is now making an improved form of extension vestibule trap-door, which differs from the older design, described in the *Railroad Gazette*, June 20, 1902, chiefly in the location and arrangement of the push rod and step which operates the catch and forces the door up.

The accompanying drawing shows the details of the operating mechanism of the new form of door. In the construction of the torsion spring hinge and in the catch itself, it is the same as the one previously described, but that form of door had an operating rod extending up into the vestibule and supported in brackets on the end panel, with a corrugated foot plate on its upper end which was located just under the signal step. In the improved arrangement, the lock pin projects up through the floor and is protected from being accidentally operated by a shield pin or rod which is carried in brackets on the vestibule end panel and which is located directly



above the lock pin with the lower end  $\frac{1}{2}$  in. away from it. To operate the lock, the shield pin must be pulled up far enough to permit the foot to be placed beneath it and on top of the lock pin, and with this arrangement the door cannot be opened unintentionally. The first movement of the lock pin withdraws the lock bolt and further movement brings the end of the lifting lever against the under side of the trap door and forces it upward. If the door is free to move without binding in the frame, the torsion spring hinge is sufficiently powerful to raise it up to a vertical position against the end of the car, but in case the door sticks it can be forced up out of the frame with the operating lever which has sufficient leverage to raise the door even with a person standing on it. There is thus no necessity for a hand-lift in the top surface of the door. The lock pin has a handle extending through the sill by means of which the door can be operated from outside and beneath the car.

### Stability of Traffic on British Railroads.

*The Statist* (London) contains a thoughtful article on the relative stability of the traffic on British railroads compared with that in other countries, which is of interest to American readers as showing the tendency of

an old and highly developed transportation system to be subject less and less to the periodic fluctuations of a new and undeveloped system. It is now ten years since there has been any decrease in gross earnings on British railroads for any year from the year preceding it, and the occasion of the last decrease, in 1893, was the great coal strike for a minimum wage. Prior to that there had been even increases annually for many years with the exception of a slight setback in 1884 and a period of depression in 1878 and 1879, but grave comment is made on the piling up of capital obligations which are tending irrepressibly to lessen net earnings.

In Great Britain the total trade is never really depressed and railroad earnings practically never decline, but grow greater year by year as the wealth and population of the country expand. Even in the 1878-79 period when the nation suffered from the effects of the City of Glasgow failure the shrinkage in the earnings of the railroad was less than 2 per cent., and in the period of relative trade depression in 1885-86 the shrinkage in gross earnings was less than  $1\frac{1}{2}$  per cent. After the Baring crisis of 1890 there was no shrinkage. In 1893 earnings temporarily declined owing to the great coal strike, but from 1894 to the present time they have shown unbroken expansion. The following table shows the increases in gross earnings of the railroads of the United Kingdom by five year periods since 1870, with comment as to the condition of trade at each period.

1870	£45,078,000	
1875	61,237,000	Quiet.
1880	65,492,000	Improvement from depression after the Glasgow bank failure.
1885	69,556,000	Depressed.
1890	79,949,000	Very active.
1895	85,923,000	Quiet.
1900	104,802,000	Very active.
1903	109,100,000	Less active than 1902.

That earnings should have been as large as they have been in the past year is a matter for astonishment and for congratulation. The exceptional expenditures of the country in connection with the war did not give any special stimulus to trade as it did in 1900, 1901 and 1902. Capital has not been abundant, there has been a serious shortage in the supply of the raw material for the great Lancashire cotton trade and the crops of the country have been poor. During the past few weeks of 1903 British railroad earnings, it is true, showed considerable shrinkage, but the comparison was with a period in 1902 when earnings were exceptionally increased by temporary and unusual demands owing to foreign labor troubles and the demand for coal and iron in the United States and for coal in France. The total trade of the country both home and foreign as indicated by the earnings of the railroads has never been greater than in 1903 either actually or relatively to the population. While some trades have been less active than in the past, others have grown, and the net result has been a greater



spending power than has ever before been reached by the United Kingdom.

The relatively poor dividends declared at the time of these unprecedented large earnings are occasioned by the very large expenditures out of capital, and although these outlays have brought commensurate results there has not been a corresponding growth in net earnings. The greater proportionate growth of expenses than of gross earnings has been due to several causes. The first is that the railroads have failed to handle their growing traffic in a scientific manner. A great deal has been heard of the ability of manufacturers to produce more economically on a large than on a small scale in proportion to the total output, but unfortunately the railroads of the United Kingdom have not until recently appreciated this first principle of trade and instead of endeavoring to handle the traffic of the country more economically in proportion as it grew they continued until 1900 to handle it with no greater economy—in fact, with less economy—in proportion to the volume than they did 30 years ago. The second cause has been that the wages of railroad employees in Great Britain have necessarily risen somewhat in proportion to the general advance in the rate of wages, and that inasmuch as the higher wages did not bring increased efficiency railroad expenses have had to bear not only an increase in wages due to growth of traffic but also an increase owing to rise in the rate. The third reason for the much greater proportionate growth in expenses and in gross earnings has been the considerable rise in taxes. The increase in the cost of coal and materials compared with the low level of 1896 has been appreciable, but compared with early seventies the price both of coal and of materials have fallen considerably. In 1872 working expenses of the railroads of the United Kingdom absorbed 49 per cent. of the total receipts. In 1882 working expenses absorbed 52 per cent., in 1892 56 per cent., and in 1902 61 per cent.

The article directs attention to the immense expenditures of the railroads, not for the purpose of criticism but with the object of indicating the scope for economy and the possibility of considerable economy being effected in the future. Most of the railroad managers now recognize the advantages of scientific and economical methods, and it is anticipated that slowly and steadily the railroads of the United Kingdom will handle their traffic with heretofore unequalled degrees of economy. Already cars and trains are being much more fully loaded so that a smaller train and car movement is required in proportion to the total traffic. Passenger coaches are being widened and a larger number of passengers carried in each coach and in each train with practically no increase in cost. Larger cars are gradually being introduced and locomotives of higher power are being built.

Electric traction, which is expected to result in considerable economy, is being adopted where there is a dense suburban traffic to be handled, and motor cars are being introduced where traffic is light, one or two of these being sufficient to handle the traffic in place of standard trains previously run at a loss. It is anticipated, therefore, that with the expected continued future increases in gross earnings a much larger proportionate growth in net earnings will be secured than previously.

The immediate outlook for British railroad dividends in January and possibly also for dividends in the June half of the current year is less promising than is the more distant prospect. The heavy cost of the war has absorbed capital which under normal conditions would have been employed in developing trade and until the effect of these losses has passed away and capital and profits can accumulate a temporary check to business must be looked for, but it is not anticipated that the check will last for more than a few months. The annual profits of the country available for investment are very great, and a temporary cessation in investment causes great accumulation, brings easy money, and is quickly followed by a fresh expansion in trade.

The railroad which reaches the north slope of the Caucasus in Russia and along it to the Caspian has near it a considerable population whose profession has been robbery for unknown ages, and who now practice their art on the railroad trains and stations. Not long ago all track watchmen, switchmen, trainmen and station men were armed with revolvers, while the guards on the trains carry Berdan rifles also. A Russian journal surmises that within six months all these fine weapons will be in the possession of the robber bands, who have a particular affection for the Berdan rifles. It is hinted that the robbers have an understanding with the railroad men, and it is probable enough that they have made them understand that it will be unhealthy for them to make any resistance when they are attacked.

## TECHNICAL.

### Manufacturing and Business.

The Independent Railroad Supply Company, Chicago, has received orders for several carloads of single-flange tie plates from the Grand Rapids & Indiana R. R.

Transport (London) appears Jan. 1 with a brown cover instead of the familiar green one, and contents somewhat enlarged by the addition of new departments.

The International Iron & Metal Company, of Newark, N. J., has been incorporated with a capital of \$30,000. The incorporators are Steven J. McCerdee and others.

The New York Iron & Metal Company, of New York City, has been incorporated with a capital of \$40,000.

A. A. Carter, D. Emery, of New York City, and others, are incorporators.

The Ansonia Motor Car Company, New York, has been incorporated with a capital of \$10,000. The directors are F. C. Armstrong and T. B. Townley, Elizabeth, N. J., and C. J. Scott, New York.

The Rotary Machine Company, of Wilmington, has been incorporated with a capital of \$50,000 in Delaware, by W. S. Hash, of Red Stone, N. H.; L. R. Flock, Shelby, N. C., and C. J. T. Moon, Clover, Va.

The United States Engineering Company, of New York City, has been incorporated with a capital of \$1,000,000, to make and operate dredging plants. H. H. Moore, E. W. Newkirk and J. B. Day are incorporators.

Mr. Lionel Post has severed his connections with the Alphons Custodis Chimney Construction Company, and is now with Messrs. Bellman & Sanford, general contractors for power plants, 149 Broadway, New York City.

The Robertson Manufacturing Company, Chicago, has opened an office in the Stock Exchange Building, for the sale of locomotive terminal supplies. It will make a specialty of the Robertson pneumatic cinder conveyor.

The American Water Softener Company, of Philadelphia, on the first of the year opened a branch office in the Outlook Building, Columbus, Ohio. This office is under the charge of W. H. P. Fisher, General Sales Agent.

Irving H. Reynolds, formerly with the Allis-Chalmers Company, and for many years identified with the design and construction of their engines, has been made consulting engineer of the William Tod Company, of Youngstown, Ohio.

The 18-stall roundhouse for the Pennsylvania Lines, at Cleveland, Ohio, and also the 20-stall roundhouse for the El Paso & North Eastern, at Alamogordo, N. Mex., have been equipped with cast-iron smoke jacks, made by Paul Dickinson, Chicago.

The Essington Rotary Steam Expansion Engine Company, of Camden, N. J., has been incorporated with a capital of \$300,000, to make engines, boilers and machinery. The incorporators are, Henry C. Essington, J. M. Irwin, A. P. Wint and W. W. Davis, all of Camden, N. J.

Mr. N. S. Braden, formerly Manager of the Westinghouse Electric & Manufacturing Company's District Office at Cleveland, Ohio, has been appointed Sales Manager of the new Canadian Westinghouse Company, at Hamilton, Ont., and assumed the duties of that office on January 1, 1904, succeeding the late Thomas C. Freney, who died December 10, 1903.

The Continuous Rail & Manufacturing Company, of Indianapolis, Ind., was recently incorporated with a capital of \$200,000, to make continuous rails. The Company expects to build a rail mill with a capacity of 500 tons a day, for which the plans are being prepared. The officers are, J. F. Messick, President; J. N. Crabb, Vice-President and General Manager, and W. A. Zumpfe, Secretary and Treasurer.

The British Johns-Manville Company, Limited, has been incorporated in England. It has office and warehouses at 81 Fenchurch Street, London, E. C., and will handle a complete line of overhead line material, electric insulating material, electric heaters, rail bonds and Sachs "Noark" enclosed fuse protective devices. Henry J. Joseph is the managing director, as well as manager of the London branch of the H. W. Johns-Manville Company.

The Columbia Graphite Company has begun to turn out finished product at its works at Crown Point, Essex County, N. Y. The plant is capable of making five tons of finished graphite a day. At present two tons a day will be made, and the company has already contracted for the sale of that amount for a whole year. The works has its own electric light plant and is heated by steam. The officers of the company are: President, B. E. Tinstman; Secretary, W. C. Winterhalter; and Treasurer, A. B. McGraw, all of Pittsburg, Pa., where the business office of the company is located in the Farmers' National Bank Building. The ores in the Company's mines are rich in graphite.

### Iron and Steel.

The Edgar Thomson steel rail mill of the Carnegie Steel Company has resumed work after a shut-down of several months.

The Carnegie Steel Company has blown in its new McKinley Furnace at New Castle, Pa., which has been idle for some weeks.

At the National Works of the National Tube Company at McKeesport, Pa., work was recently resumed after an idleness of nearly a month.

The Interstate Steel Company, of Pittsburg, has placed in operation its new works. The capital stock of the company is \$200,000, and Captain Alfred Hicks is President.

The Canonsburg Steel & Iron Works, of Canonsburg, Pa., after a two weeks' shutdown to make necessary repairs, has resumed operations in full. The Company makes steel and iron sheets.

The Susquehanna Iron & Steel Company has resumed work, after an idleness of several months, at its two mills at Columbia, Pa., and expects to shortly resume work in the balance of its plant.

The H. C. Frick Coke Company, it is reported, has

ordered a resumption of work at Sco. Pa., of 1,500 additional coke ovens, making a total of 3,000 started since the first of the year by this Company. The Rainey Coke Company has also 500 ovens in operation in this district.

The bondholders' protective committee of the Co. and Fuel & Iron Company has extended the time until Feb. 6 for depositing debenture bonds in favor of the new financial plan. There have been deposited with the protective committee in favor of the plan \$11,527,000 bonds out of a total issue of \$14,068,000, on which the interest due Feb. 1 will amount to \$288,175.

### Canadian Pacific Irrigation Canal.

Bids are wanted Feb. 15, by the Canadian Pacific Railway for building an irrigation canal 35 miles long, 60 ft. wide at the bottom and 10 ft. deep, for the purpose of reclaiming 5,000,000 acres of arid land in the vicinity of Calgary, Alberta. J. S. Dennis, Calgary, Alta., is the engineer in charge.

### Extension of the Block System on the North Western.

The Chicago & North Western has put the manual block system in use on 837 miles of road, in addition to that reported in the *Railroad Gazette* last week. The additions are chiefly on the Ashland and Minnesota divisions. Among the lines included are that from Milwaukee to Ashland by way of Sheboygan, and from Winona, Minn., to Tracy, Minn. There are 22 miles in Illinois and 9 in Michigan.

### Automatic Block Signals on the Great Central.

The Great Central Railway, of England, is to equip its line from Ardwick Junction, near Manchester, to Newton, 6 miles, with electro-pneumatic automatic block signals, to be put in by the British Pneumatic (low pressure) Signal Company. This line is mostly four-track, and 13 new interlocking cabins are to be put up, to contain low-pressure interlocking apparatus. The new power interlocking machines will have 366 levers, taking the place of 727 manual levers. Many of these cabins are at important junctions and the number of signalmen will be reduced in consequence of the reduction in the amount of physical work required.

### Copper Sheathed Cars for Newfoundland.

The Reid Newfoundland Co., operating the only railroad in Newfoundland, has recently specified copper plated sheathing for three passenger coaches now building. An officer of the company writes that owing to the peculiar climatic conditions prevailing in that country and to the fact that the road runs very close to the ocean for almost its entire length of 548 miles, it has been found necessary to revarnish the passenger coaches very frequently. They expect, by applying a copper sheathing, not only to save considerable expense in revarnishing, but to better preserve the wood and more easily keep the cars clean. This copper sheathed lumber is made by the Metal Plated Car & Lumber Co., New York.

### Mechanical Draft for Denver Power Station.

The maximum boiler power in central power stations is only attained during a few hours of the day. During the greater part of the day the capacity required is much less than this maximum. On this account it has been found economical and practical to design the boilers and chimneys of ample capacity for this load and to force them above and up to the maximum by means of mechanical draft. This is applied with equal success to old and new plants. In the new power station of the Denver Tramway Power Company, Denver, Colo., mechanical draft is used as an auxiliary, to the natural draft provided by a chimney 240 ft. high. Artificial draft is furnished by three Sturtevant electrically driven steel plate fans. The boiler capacity of the plant is approximately 6,000 h.p.

### Proposed Bridge Over the Strait of Canso.

Messrs. Waddell & Hedrick, Consulting Engineers, Kansas City, Mo., are now at work preparing complete plans for the proposed cantilever bridge across the Strait of Canso, which separates Cape Breton Island from the mainland of Nova Scotia. The bridge is to be built for the Strait of Canso Bridge Company and will be used by the Intercolonial Railway, which at present is obliged to transfer all of its passengers from the mainland to Cape Breton to a ferry at Point Tupper. The construction of this bridge will save nearly an hour now spent in ferrying across the strait, and will permit the running of night trains to and from Sydney. The bridge as proposed will be the largest single span cantilever in the world. Its total length from abutment to abutment is to be 4,370 ft., and the length of the main span will be 1,800 ft., with anchorage spans 600 ft. long on the shore ends. It is estimated that the cost will be \$5,000,000, and 35,000 tons of steel in all will be required. The floor of the bridge will be 150 ft. above high water. The main piers will rest on steel caissons 40 ft. in diameter, filled with concrete and sunk to a depth of 90 ft. The depth of the water in the middle of the channel at this point is 270 ft., which precludes any possibility of shortening the span by putting in a center pier and making a less expensive structure. It is expected that the Dominion Iron & Steel Company will secure the contract for the steel work. Some idea of the magnitude of the proposed structure can be had by comparing it with one or two of the world's largest bridges. The Firth of Forth bridge is 8,296 ft. long, with a 1,700-ft. main span and 88 ft. of water at the main piers. The Wabash bridge over the Monongahela at Pittsburg is the largest cantilever bridge in the United States and is 1,504 ft. long between anchor piers with a clear channel span of 812 ft. The Blackwell's Island bridge over the



East of New York City, for which contracts have been \$3,095 ft. between anchorage piers and has twelve spans, one 1,182 ft. and one 984 ft. long.

### THE SCRAP HEAP.

#### Notes.

The Big Four has issued orders to the effect that any member of a crew refusing to go out on a run after he has been called is liable to fifteen days' rest.—*Exchange*.

On the night of January 20, an express car of a train of the Southern Pacific was robbed of a safe near San Luis Obispo, the express messenger having gone into the baggage car for a few minutes. The train was traveling slowly at the time.

Charles M. Pepper, an agent of the United States Government, has returned from a tour through South America, where he was sent to look into the status, in each country, of the project to build a railroad from North America to and through Central and South America. The despatches say that he gives an encouraging report.

The American Railway Traffic Association has been formed in Brooklyn, N. Y., and incorporated at Albany, for the purpose of transporting garbage and ashes, in cars, over the lines of the Brooklyn Rapid Transit (street railroad) Company at night. The new corporation is controlled by men connected with the Brooklyn Rapid Transit Company and its charter will permit it to carry freight of all kinds.

Agents of the Erie Railroad have been notified from headquarters to call the attention of manufacturers along the line of the road to the fact that factories within sight of the track ought always to have conspicuous signs, for the information of passengers, who, presumably, take an interest in the country through which they travel. The officers of the road consider the sign a necessary ethical courtesy to the traveling public.

It is announced from Washington that on account of the large balance in the Treasury unexpended and to the credit of river and harbor improvements, that the House Committee on Rivers and Harbors has decided that no river and harbor bill shall be laid before Congress at the present session. Some surveys may be authorized and it is expected that some appropriations for continuing improvements will be made in the Sundry Civil Appropriation bill.

On the New York division of the Pennsylvania Railroad, last Tuesday, Thomas P. McGlennon, a member of the New Jersey Legislature, was ejected from a train of the Pennsylvania Railroad because he refused to pay his fare. Mr. McGlennon showed his certificate of election and a lot of passes from other railroads, and demanded to be carried to Trenton free. It is said that he intends to test his rights under a statute requiring railroads to carry members of the legislature free when they are traveling on the business of the State. Congressman Robert Baker, of Brooklyn, N. Y., has introduced in Congress a resolution calling on the judiciary committee to see whether or not the Baltimore & Ohio has violated a Federal statute in offering him an annual pass.

The International Harvester Company has again chosen New Orleans in preference to New York as the port of exit for nearly 25,000 tons of agricultural machinery for South Russia. Last season, owing chiefly to the Eastern railroads increasing the freight charges from 23 cents to 30 cents per 100 pounds, about 15,000 tons were moved via the South to Black Sea ports. This year, notwithstanding that the roads from Chicago to New York reduced the charge from 30 cents to 25 cents, the entire exports of the International Harvester Company to South Russia are expected to be shipped via New Orleans. The machinery will be built chiefly by the McCormick and the Deering divisions of the International Company. The value of the shipment via the South will aggregate in the neighborhood of \$2,500,000.—*Exchange*.

#### The Battleship Contracts.

The Navy Department has let the contracts for the battleships "Idaho" and "Mississippi" to Wm. Cramp & Sons, of Philadelphia, at their bid of \$2,999,500 for each ship, one to be completed in 38 and the other in 40 months, this bid being the lowest received and the only bid for the two ships. (Jan. 22, p. 69.)

#### Canadian Railroad Commission.

The Governor General of Canada has issued his proclamation fixing the first of February on which the new railroad law shall go into effect. The Railway Commission which he has appointed under this law consists of Hon. A. G. Blair, formerly Minister of Railways and Canals; Hon. M. E. Bernier, formerly Minister of Inland Revenue, and Prof. James Mills of the Ontario Agricultural College. Mr. Blair is Chief Commissioner and will receive a salary of \$10,000 a year; the other two Commissioners will receive \$8,000 each. An abstract of the Canadian Railroad Law was given in the *Railroad Gazette* of December 18, page 902.

#### Steam Boiler Inspection.

A bill providing for the revision of the Federal laws and regulations, made many years ago, governing steam boiler inspection, is being advocated before the House Committee on Merchant Marine and Fisheries. The movement is participated in by the Navy Department, the Revenue Marine service, the Association of Naval Architects and Marine Engineers, American Boilermakers' Association, American Shipowners' Association, the Manufacturers' As-

sociation and the Board of Supervising Inspectors of Steam Vessels. At a hearing before the Committee last week a revision of the rules was also urged by Messrs. Wm. H. Fletcher, of the W. & A. Fletcher Engine and Boiler Co., of Hoboken, N. J., and E. D. Meier, President of the Heine Safety Boiler Co., of New York.

#### Growth of Deep Sea Traffic at Gulfport.

During the calendar year 1903, 110 vessels cleared from Gulfport, Miss., the Southern terminus of the Gulf & Ship Island Railroad. Of these vessels, 37 went to the West Indies, 32 to Europe and Africa, 23 to South America and 18 to various other points. They had a total net registered tonnage of 119,878 tons and carried 105,849,422 ft. of lumber. Sixty-six vessels, carrying 66,129,657 ft. of lumber, cleared from Gulfport during the six months ended December 31, 1903, as compared with 56 vessels, carrying 47,232,765 ft. of lumber during the entire fiscal year ended June 30, 1903. The channel has now been dredged to a depth of 24 ft., which is sufficient for the largest steamers plying the Gulf. The greatest draft of any vessel that has come to Gulfport as yet is 23 ft. 7 in.

#### Cheap Ships in the United Kingdom.

According to a recent consular report a well-known ship building firm on the Wear has just contracted to build for a Liverpool firm of ship owners a steamer of 6,000 tons for £34,000, which figures to about \$26.75 per ton. This is probably the lowest price that has ever been quoted or accepted for a properly equipped cargo steamer, and is but little more than half what would have been asked for such a vessel two years ago, showing clearly how shipping property has depreciated in value. If the cost of material had not fallen greatly, it would have been impossible for any concern to undertake work at the price mentioned; but the ship building firms are so reluctant to reduce their yards to the threatened condition of absolute idleness, that they are prepared to do work at almost a negligible profit.

#### Damage by Floods.

The floods of January 22 and 23 caused great damage, particularly at Pittsburg and in Indiana. In the neighborhood of Pittsburg, the Allegheny, the Monongahela and the Ohio Rivers flooded the lowlands for many miles, and Pittsburg papers estimated a property loss of \$1,000,000. In this section many thousand men were temporarily thrown out of work by flooding of mills. Allegheny City was flooded in some points as high as the second story of the houses.

At Sharon, Pa., a bridge was carried away.

At Philadelphia, 27 piers along the east bank of Schuylkill River were greatly damaged, and many mills were flooded.

At Mahoningtown, Pa., the Pennsylvania bridge has been swept away, and the abutments of the new Baltimore & Ohio bridge were damaged.

Much damage has been done at Wheeling, W. Va., by water and ice in the Ohio River; also at Moundsville, Bellaire, Benwood, Bridgeport, Martins Ferry, Wellsburg, New Martinsville and Sistersville.

At Kokomo, Ind., two bridges were carried away.

At Indianapolis, the bridge over Buck Creek was washed from its foundation.

At Muncie, a breaking up of the ice in White River caused a loss of thousands of dollars to the county by the washing away of bridges, including the Indiana Union Traction Co.'s bridge and a number of smaller bridges north of the city.

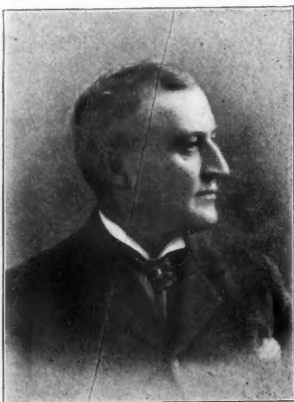
At Greencastle, a bridge of the Cleveland, Cincinnati, Chicago & St. Louis over Big Walnut Creek, was damaged, a pier having been moved from its position.

At Marion, the Union Traction Co.'s bridge over the Mississinewa River between Jonesboro and Gas City was swept away.

At Piqua, Ohio, the Great Miami River washed away a railroad bridge.

### PERSONAL.

—Mr. William H. Bancroft, who has been chosen General Manager of the Union Pacific, has, since 1897, been



Vice-President and General Manager of the Oregon Short Line, with headquarters at Salt Lake City. Mr. Bancroft was born in Newburg, Ohio, in October, 1840. His first railroad service was as an operator for the Michigan Southern, with which company he remained until 1861, when he entered the employ of the Erie Railroad as despatcher. From 1869 to 1872 he was connected with the Kansas Pacific, when he went to the Atchison, Topeka & Santa Fe as Assistant Superintendent. Later he was Superintendent of the St. Louis, Lawrence & Western, and then for a time he was on the Missouri, Kansas & Texas. For the eight years following 1878, Mr. Ban-

croft was on various divisions of the Denver & Rio Grande; two years of which he was Receiver of the Denver & Rio Grande Western. He was appointed General Superintendent of that road in 1886, but resigned in 1890 to become General Superintendent of the Mountain Division of the Union Pacific, which place he held until his appointment to the position he now leaves, that of Vice-President and General Manager of the Oregon Short Line. Mr. Bancroft's headquarters will be at Omaha.

—Mr. C. A. Derr, who recently resigned as Engineer of Maintenance of Way of the Pittsburg, Shawmut & Northern, has become Engineer of the Central Pennsylvania Lumber Company, at Williamsport, Pa.

—Mr. Harvey W. Downey, at one time General Freight and Passenger Agent of the Houston, East & West Texas, died recently in Houston, Texas. Mr. Downey was a native of Virginia, having been born in Brunswick County in 1808. He began railroad work in 1833 as a messenger for the Texas Transfer Company. Later he was on the Galveston, Harrisburg & San Antonio, and the Gulf, Colorado & Santa Fe, and in 1893 was appointed Receiver for the Houston, East & West Texas.

—Mr. William Toothe, Vice-President of the Nathan Manufacturing Company, New York City, died at the Fifth Avenue Hotel, in that city, Jan. 24. There was perhaps no one longer identified with the railroad supply business than Mr. Toothe. He was born in England in 1831, but came to this country when a young man and found employment in Chicago in newspaper work. In the early sixties he became identified with Thos. Prosser & Son, leaving there to go with Nathan & Dreyfuss, makers of injectors. On January 1, 1884, the Nathan Manufacturing Company succeeded Nathan & Dreyfuss, with Mr. Toothe as Vice-President, which position he held until his death.

—Mr. George F. Randolph, who goes from New York to Baltimore as First Vice-President of the Baltimore & Ohio, has been in railroad service for the past 31 years. Born at Norwalk, Ohio, in 1856, Mr. Randolph began work when 17 years old, as a clerk in the road department of the Cincinnati, Sandusky & Cleveland. During the winter of 1873-74 he learned telegraphy on the Lake Shore & Michigan Southern. In 1875 he went to the St. Louis & San Francisco, and for four years, from 1875, was paymaster on that road. Then and until May, 1881, he was station agent at Kenton, Ohio, for the road on which his work began. For a few months in 1881 Mr. Randolph was in Paris, France, as a clerk for the Equitable Life Assurance Company. In November of that year he became traveling auditor for the Missouri Pacific. Later he was in the General Superintendent's office of the Missouri, Kansas & Texas. For two years (1883-1885) he was on the West Shore and from this road went to the Elmira, Cortland & Northern as General Freight and Passenger Agent. In January, 1890, he resigned to become General Freight Agent of the New York & New England, and in 1892 he went to the Philadelphia & Reading, where he was made First Assistant General Freight Agent. The next year (1893) he returned to the New York & New England as General Traffic Manager. Mr. Randolph's service on the Baltimore & Ohio system dates from March, 1896. From then until 1897 he was General Traffic Manager of the Baltimore & Ohio Southwestern. For a short time he was a member of the Board of Managers of the Joint Traffic Association, representing the Baltimore & Ohio lines. He has also been General Agent in New York for this company and was later given the title of General Superintendent. Mr. Randolph was for several years President of the Staten Island Rapid Transit Company, which is controlled by the Baltimore & Ohio.



### ELECTIONS AND APPOINTMENTS.

**Atchison, Topeka & Santa Fe.**—The headquarters of C. W. Kouns, Superintendent of Transportation, have been removed from Topeka to Chicago.

**Baltimore & Ohio.**—See Baltimore & Ohio Southwestern.

**Baltimore & Ohio Southwestern.**—W. H. Brimson, hitherto Superintendent at Chillicothe, Ohio, has been appointed General Superintendent, with headquarters at Cincinnati, Ohio, succeeding D. D. Carothers, who has become Chief Engineer of the Baltimore & Ohio. John G. Walber has been appointed Assistant to the General Manager of the B. & O. S. W., with office at Cincinnati, effective Feb. 1.

**Bellingham Bay & British Columbia.**—H. H. Taylor has been elected President.

**Canadian Northern.**—E. A. James, hitherto General Superintendent, has been appointed General Manager.

**Canadian Pacific.**—G. J. Bury, hitherto General Superintendent of the Lake Superior Division, has been appointed General Superintendent of the Central Division, with headquarters at Winnipeg, Man.



**Chesapeake Western.**—M. L. Mardis has been appointed General Manager, Traffic Manager and Local Treasurer, with headquarters at Harrisonburg, Va. W. H. Hall has been appointed Treasurer, with headquarters at New York City, and C. B. Williamson becomes Acting Auditor at Harrisonburg.

**Chicago, Peoria & St. Louis.**—The headquarters of W. H. Gridley, General Manager, will, about the first of February, be removed from Springfield, Ill., to St. Louis, Mo.

**Chicago, Rock Island & Pacific.**—H. E. Bryan, hitherto Assistant to the Fourth Vice-President, has been appointed General Superintendent of the Southwestern District, with headquarters at Topeka, Kan., succeeding J. M. Gruber, resigned.

**Central of Georgia.**—Under date of January 21, the following circular was issued: "Mr. G. L. Candler is appointed Superintendent of the First Division, office, Savannah, Ga., vice Mr. J. T. Johnson, promoted. Effective this date." It is understood that Mr. Johnson has become Superintendent of Transportation.

**Dansville & Mount Morris.**—P. J. Quinn has been appointed General Freight and Passenger Agent, with office at Dansville, N. Y., succeeding J. B. Saurbier resigned.

**Denver & Rio Grande.**—W. L. Calvert, hitherto Master Mechanic of the Rio Grande Western, has been appointed Master Mechanic of the D. & R. G., with headquarters at Denver, Colo., succeeding D. Patterson, resigned.

**Duluth, Missabe & Northern.**—W. G. Wallace has been appointed Superintendent of Motive Power and Cars, with headquarters at Proctor, Minn., succeeding William Smith, resigned.

**Illinois Central.**—O. Schilling has been appointed Superintendent, with headquarters at Mattoon, Ill., succeeding R. B. Starbuck.

**Illinois Southern.**—J. Ferrell has been appointed Master Mechanic, with headquarters at Sparta, Ill., succeeding E. S. Walker, resigned.

**Lehigh Valley.**—E. B. Smith has been elected a Director, succeeding J. R. Maxwell, resigned.

**Louisville & Nashville.**—C. F. Giles has been appointed Assistant Superintendent of Machinery, with headquarters at Louisville, Ky., succeeding H. Swoyer, resigned.

**Norfolk & Western.**—A. C. Needles, hitherto Superintendent of the Pocahontas Division at Bluefield, W. Va., has been appointed General Superintendent, with headquarters at Roanoke, Va., succeeding N. D. Maher, promoted to be General Manager. Mr. Needles is succeeded at Bluefield by M. J. Caples, effective February 1.

**Pearl & Leaf River.**—W. A. Stevenson having resigned, the office of General Manager has been abolished. M. H. McCabe has been appointed Superintendent and Traffic Manager, with headquarters at Hattiesburg, Miss., and will assume the duties formerly discharged by the General Manager.

**Pittsburg, Shawmut & Northern.**—A. M. Lane, hitherto Superintendent at St. Marys, Pa., has been appointed General Superintendent in Charge of Roadway, Machinery and Transportation, with headquarters at St. Marys, Pa.

**St. Louis, Iron Mountain & Southern.**—T. Paxton has been appointed Master Mechanic, with headquarters at Argenta, Baring Cross, Ark., succeeding George Dickson, resigned.

**San Diego Eastern.**—The officers of this company are: Chairman of the Board, C. W. French; President, A. A. Purman; Vice-President, G. W. Marston; Secretary, V. A. Dernel; Treasurer, G. W. Fishburn, and Chief Engineer, H. T. Richardson. (See Railroad Construction column.)

**Santa Fe Central.**—The office of J. W. Records, Master Mechanic, has been removed from Torrence to Estancia, N. Mex.

**Southern Pacific.**—F. E. Batturs has been appointed Assistant General Passenger Agent, with headquarters at New Orleans.

**Tonopah.**—A. Tripp, heretofore Superintendent of Terminals of the Southern at Jacksonville, Fla., has been appointed Superintendent and General Freight and Passenger Agent of the Tonopah, with headquarters at Tonopah, Nev. (See R. R. Construction column, Jan. 15, page 54.)

## LOCOMOTIVE BUILDING.

The **Norfolk & Western** is having four locomotives built at the Baldwin Works.

**F. E. Shaw**, Providence, R. I., is in the market for one 12-ton 36-inch gage locomotive.

The **Chicago, Indianapolis & Louisville** has ordered two locomotives from the Baldwin Works.

The **Tonesta Valley** is having one locomotive built at the Brooks Works of the American Locomotive Co.

The **New York, Chicago & St. Louis** is having five locomotives built at the Brooks Works of the American Locomotive Co.

The **Colorado, St. Louis & Western** is having two locomotives built at the Brooks Works of the American Locomotive Co.

## CAR BUILDING.

The **Wabash** is reported to be asking estimates on nine passenger coaches.

The **American Car & Foundry Co.** has miscellaneous orders for 14 cars.

The **Detroit & Mackinac** is reported in the market for passenger equipment.

The **Long Island** has ordered 200 freight cars from the Pressed Steel Car Co.

The **Delaware, Lackawanna & Western** is in the market for 1,500 flat cars.

The **Warren Sugar Refining Co.** has ordered 15 cars from the Erie Car Works.

The **Chicago, Peoria & Western** is asking bids on 60 tank cars of 80,000 lbs. capacity.

The **Cleveland, Akron & Columbus** has ordered 97 freight cars from the Standard Steel Car Co.

The **St. Louis, Brownsville & Mexico** has ordered 200 box cars from the American Car & Foundry Co.

The **Minneapolis, St. Paul & Sault Ste. Marie**, as reported in our issue of January 15, has ordered three baggage and mail and one baggage and passenger car from Barney & Smith, for May delivery. The baggage and mail cars will be 70 ft. long, the baggage and passenger car will be 50 ft. long; both baggage and mail and baggage and passenger cars will be 9 ft. 10½ in. wide, over sills; and 6 ft. 9 in. high from top of sill to bottom of plate. The special equipment includes: Steel axles, Westinghouse airbrakes, Washburn flexible head couplers, Standard Steel platforms, and Barney & Smith seats and trucks.

## BRIDGE BUILDING.

**AKRON, OHIO.**—The Erie & Cleveland, Akron & Colorado, and the Baltimore & Ohio will, it is reported, jointly build a viaduct over Mill street, to cost about \$50,000.

**ALDENSVILLE, PA.**—Bids are wanted February 9 by James M. Schumaker, of Harrisburg, Pa., Superintendent of Public Grounds and Buildings, for the rebuilding of the substructure and superstructure of the bridge over Lackawanna Creek.

**ATLANTA, GA.**—Fulton and Cobb counties, it is reported, have completed arrangements for building a steel bridge over the Chattahoochee River at the Mason and Turner Ferry, to cost about \$10,000.

**AUBURN, IND.**—Bids are wanted Feb. 11, by the Board of Commissioners of DeKalb County, for the building of steel bridges with concrete abutments, as follows: A 30-ft. span with 16-ft. roadway in Smithfield Township; a 30-ft. span with a 16-ft. roadway in Richland Township; a 45-ft. span with a 16-ft. roadway in Butler Township; a 30-ft. span with a 16-ft. roadway in Butler Township, and a 30-ft. span with a 16-ft. roadway in Grant Township. Also for building concrete arches, on concrete abutments, as follows: A 12-ft. opening with a 16-ft. roadway near Fairfield Centre; a 12-ft. opening with a 16-ft. roadway near Sedan; a 12-ft. opening with a 16-ft. roadway near Altoona; a 20-ft. opening with a 16-ft. roadway in Butler Township; a 9-ft. opening with a 16-ft. roadway in Jackson Township; an 8-ft. opening with a 16-ft. roadway in Jackson Township; a 12-ft. opening with a 16-ft. roadway in Concord Township, and a 14-ft. opening with a 16-ft. roadway in Concord Township. Herman D. Boozer, Auditor.

**BELLOWS FALLS, VT.**—The towns of Walpole and Rockingham have under consideration the question of building a new bridge to cost about \$70,000 between North Walpole and Bellows Falls.

**BERRIEN SPRINGS, MICH.**—The Board of Supervisors will build a steel bridge over the St. Joseph River, to cost about \$18,000. James D. Thompson, of Niles, is a member of the Building Committee.

**BLOOMFIELD, IND.**—Bids are wanted, Feb. 2, by W. H. Decker, Auditor of Greene County, for building three highway bridges and two stone arches as follows: One bridge at the Freeman ford, in Jackson Township, on Indian Creek; one arch on the Tucker branch, in Washington Township. One bridge on Black Creek, in Stockton Township; one bridge in Taylor Township, near Scotland; one stone arch on Bloomfield and Elliston road, in Richland Township.

**BOSTON, MASS.**—A contract has been awarded to the Phoenix Bridge Company for building the steel superstructure of the Cambridge Bridge at \$529,500. The other bids were: McClintic-Marshall Construction Co., \$544,000; American Bridge Co., \$548,500; Boston Bridge Works, \$569,750; Pennsylvania Steel Co., \$574,500; Boston Steel & Iron Co., \$584,000; Riverside Bridge Co., \$666,250; King Bridge Co., \$675,000; Riter-Conley Manufacturing Co., \$739,217.

**CHATTANOOGA, TENN.**—W. L. Dodd, County Engineer, is drawing plans for the viaduct to be built over the tracks on McCallie avenue. As soon as the plans are completed they will be submitted to the different committees for approval, and bids for the work will be advertised for.

**CHILLICOTHE, MO.**—Bids are wanted, February 1, by J. Y. Powell, Bridge Commissioner, for building a new bridge in Livingston County.

**COUNCIL BLUFFS, IOWA.**—A bill has been introduced in the House of Representatives and referred to the Committee on Interstate and Foreign Commerce authorizing a bridge over the Missouri River, at Council Bluffs, Iowa.

Bids are wanted, April 1, by the Board of Supervisors, for building all the bridges necessary to be built for one year, commencing April 1.

**DANVILLE, VA.**—The City Council, it is reported, is asking bids for two bridges to be built over the Dan River.

**DAYTON, OHIO.**—The contract for building the Melan concrete-steel arch bridge over Great Miami River at Third street has been awarded to Chas. Horgan, Dayton, Ohio. Contract price, \$179,600. Concrete-Steel Engineering Co., New York, Consulting Engineers; F. M. Turner, City Engineer.

**EVERETT, WASH.**—The War Department and the city officials have approved the plans for building a bridge over the Snohomish River.

**KANSAS CITY, MO.**—Three hundred feet of the Kansas avenue wagon and street car bridge over the Kansas River has been carried away by ice.

An ordinance has passed the Lower House of the Council authorizing the City Engineer to make plans for building an overhead viaduct and approaches over the tracks of the Kansas Belt Line on Broadway.

**LITTLE ROCK, ARK.**—The city and the St. Louis, Iron Mountain & Southern, it is reported, will jointly build a viaduct over East Washington avenue.

**MILWAUKEE, WIS.**—Bids will soon be asked for by City Engineer Poetsch for building a bridge 140 ft. long and 64 ft. wide, to cost \$25,000, over the North-Western tracks at Bartlett street.

**MINNESOTA.**—In the House of Representatives a bill has been introduced authorizing the Commissioners of Morrison County, Minn., to build a bridge over the Mississippi River, the plans to be subject to the approval of the Secretary of War.

**MONTAGUE CITY, MASS.**—The Boston & Maine, it is reported, is making survey for a new bridge to replace the present structure.

**NEW BRAUNFELS, TEXAS.**—The County Commissioners have awarded a contract to the George E. King Bridge Co., at \$12,498, to build an iron bridge over the Guadalupe River.

**NORTH YAKIMA, WASH.**—The County Commissioners have condemned the Moxee bridge, over the Yakima River.

**OSHKOSH, WIS.**—The Common Council has under consideration the question of building a new bridge to cost about \$90,000, to replace the present structure over the river at the foot of Main street.

**PERKINS, OKLA. T.**—The temporary injunction secured by residents of this place, which prevented the use of township funds for building an iron bridge over the Cimarron River, has been dissolved.

**PETERSBURG, VA.**—Bids will soon be asked for building a bridge over the Appomattox River from a point on a line with Second street to the Turnpike road. Capt. Winslow, U. S. Engineers, of Norfolk, is in charge of the work.

**PHILADELPHIA, PA.**—A bill to build a bridge over the Schuylkill River from 23rd and Callowhill streets to Powelton avenue, to give a West Philadelphia approach to the proposed Parkway, from City Hall to Fairmount Park, was introduced in Common Council recently. The bridge would cost about \$750,000. It is needed to relieve the traffic on the Market and Spring Garden street bridges. The ordinance was referred to the Survey Committee.

Director of Public Works Costello has announced that beginning February 1 engineers would begin a thorough inspection of all the city bridges, of which there are 318 under the care of the Highway Bureau; also that specifications were being drawn for necessary repairs to the Spring Garden and Market street bridges, for which bids will be asked at once.

**RICHMOND, IND.**—City Engineer Weber is making plans for the proposed South Side Bridge, which is to be a combined railroad and highway bridge. If built at South Eighth street it will be 960 ft. long and 105 ft. above water level. This bridge will probably be built during the coming summer.

**ST. JOSEPH, MICH.**—The Pere Marquette, it is reported, will build a new bridge over the St. Joseph River to cost about \$100,000, to carry heavier rolling stock, to be added this spring to its equipment.

**SYDNEY, C. B.**—Plans for the proposed bridge over the Strait of Canso, between Cape Breton and Nova Scotia, are being prepared by Waddell & Hedrick, engineers, of Kansas City. The bridge will be of cantilever type, 4,370 ft. long, with center span 1,800 ft. long, and will cost about \$5,000,000.

**WASHINGTON, D. C.**—It is reported that the Secretary of War, after considering the question of compelling the raising of six bridges over the Allegheny River, connecting Pittsburg and Allegheny, has denied these applications, as it would involve the rebuilding of some of the bridges and extensive change of street grades at a cost of several million dollars.

**WATERVLIET, N. Y.**—A bill has been introduced at Albany authorizing the Common Council of the city of Watervliet to raise by tax \$10,000 for building a bridge at Fifteenth street and Third avenue.

## Other Structures.

**CHATTANOOGA, TENN.**—The Cincinnati, New Orleans & Texas Pacific, it is reported, will enlarge its shops by the addition of a building 400 ft. long.

**CLARKSVILLE, TENN.**—The Tennessee Central is trying to locate a site for its new brick freight house, the cost of which for the grading and building, will be about \$35,000.

**DENVER, COLO.**—The Denver Steel Casting Company it is reported has bought 30 acres of land as a site for its new shops, on which work will soon be commenced.

**HAMMOND, IND.**—The Chicago Steel Manufacturing Company will replace its shops recently destroyed by fire.

**LOUISVILLE, KY.**—The Chicago, Indianapolis & Louisville, it is reported, has plans ready for building a new freight house, for which bids are asked February 10.

**LUDLOW, KY.**—The Cincinnati, New Orleans & Texas Pacific, reports say, will build an 80-ft. addition to its shops.

**MERIDIAN, MISS.**—The Railroad Commissioner of Mississippi has approved the plans submitted by the Mobile & Ohio for a new union passenger station to be 90 ft. by 400 ft., and to cost about \$75,000, to be jointly built by the Mobile & Ohio, the Southern, the Alabama Great Southern, and the Cincinnati, New Orleans & Texas Pacific.

**MONTREAL, QUE.**—The Canadian Pacific has plans ready for further improvements to the Windsor street station, to cost about \$750,000, and including new sheds, new shunting tracks, addition to roundhouse, etc.

**NEW YORK, N. Y.**—Sealed proposals will be received by H. Fernstrom, Chief Engineer, New York Central & Hudson River Railroad, Grand Central Station, New York, Feb. 1, for the building and covering of the steel frame extension on Pier Shed 71 (old No. 61) at foot of 31st street, New York; also for a steel frame pier shed on Pier 73 (old Pier No. 63) at foot of 33rd street, together with the connecting of the old bulkhead shed to the north side of same, on the North River.

Congress will be asked to appropriate \$919,000 for improvements on Ellis Island, to include an extension to the main building, to cost \$300,000; extending medical offices, \$10,000; kitchen, etc., \$75,000; building new hospital, \$200,000; contagious hospital, \$250,000, and additions to other buildings and improvements, \$84,000.

**OLEAN, N. Y.**—An officer writes that the Pennsylvania has completed the foundations for its locomotive repair shops to be built at Olean. There will be a building 72 ft. 4 in. wide by 198 ft. 2 in. long, to be of brick and steel and cost about \$150,000. The contracts have not yet been let.

**OWEGO, N. Y.**—The Delaware, Lackawanna & Western, it is reported, will build next summer a brick passenger station at Owego, and will also build a new station at Waverly.

**PITTSFIELD, MASS.**—The J. L. & T. D. Peck Manufacturing Company has issued bonds for \$300,000, the proceeds of which are to be used in enlarging its works and adding new machinery.

**RITZVILLE, WASH.**—The Northern Pacific, it is reported, will build a new station early in the spring. It will be of two stories, 77 ft. long. Also a new freight house, to be 200 ft. long.



**ST. LOUIS, MO.**—Sealed proposals will be received Feb. 18 by Major Thomas Cruse, Depot Quartermaster, for furnishing and building a 150,000-gallon steel tank with trestle at Jefferson Barracks, Mo.

**SALIDA, COLO.**—The Denver & Rio Grande, it is reported, will build additional machine shops, to cost about \$300,000.

**SAN BERNARDINO, CAL.**—The Santa Fe, it is reported, has bought land and will enlarge its shops and will in future do the repair work for the San Pedro, Los Angeles & Salt Lake.

**SEDALIA, MO.**—The Missouri Pacific, it is reported, will build large shops in Sedalia.

**STAUNTON, W. VA.**—The Chesapeake & Ohio will, it is reported, build a new station to cost about \$18,000.

**TUSCALOOSA, ALA.**—The Strickland Bros. Machine Company will, it is reported, build a galvanized-steel foundry, 50 ft. by 250 ft. New foundry equipment and machine tools will be put in.

**VICKSBURG, MICH.**—The Grand Rapids & Indiana and the Grand Trunk, it is reported, will jointly build a new brick union station.

**WEST POINT, GA.**—The Chattahoochee Valley Railway Company, it is reported, will replace its roundhouse and a machine shop 30 ft. by 60 ft., recently destroyed by fire.

**WICHITA, KAN.**—The Wichita Bridge & Iron Company, it is reported, is making improvements to its works at a cost of about \$25,000, to include an addition to the machine shop and the building of a new factory.

## RAILROAD CONSTRUCTION.

### New Incorporations, Surveys, Etc.

**ATCHISON, TOPEKA & SANTA FE.**—It is reported that the extension which this Company is building from Pauls Valley, Ind. T., to Shawnee, Okla. T., 52 miles, will be finished and in operation by February 15th. The line has been completed as far as Wanette, 20 miles.

Under the charter of the Montgomery County Railroad, the Santa Fe has completed a cut-off from Havana, Kan., south to Caney, 6 miles. This cut-off has been built to connect the Independence Branch with the Bartlesville Branch. Heretofore, connection has been made over the Missouri Pacific tracks from Niotaze to Caney. (June 5, p. 400.)

**ATLANTIC & NORTH WESTERN.**—This Company has been incorporated in North Carolina, to complete a railroad from Goldsboro to Seven Springs, 15 miles, with an extension from Seven Springs to the Coast. The Goldsboro & Seven Springs Security Company will finance the road, and it is stated that grading will be begun about April 1st. E. A. Humphrey, Goldsboro, N. C., is said to be interested.

**CALIFORNIA & OREGON COAST.**—Surveys have been completed and rights of way secured for this road from Grant's Pass, Oregon, southwest, through Wilderville, Selma and Kerby to Crescent City, Cal., 91 miles. It is stated that contracts for grading will be let about April 1. T. W. M. Draper, 230 Montgomery street, San Francisco, is Chief Engineer. (November 20th, 1903, p. 838.)

**CAMPBELLFORD, LAKE ONTARIO & WESTERN.**—Application will be made at the next session of the Dominion Parliament for the incorporation of a company to build a railroad from near Ivanhoe on the Canadian Pacific, to near Leaside Junction, on the C. P. R., close to Toronto. A. B. Colvill, Campbellford, Ont., is acting for the promoters.

**CENTRAL ONTARIO COUNTIES.**—Application will be made at the next session of the Dominion Parliament for an act authorizing the construction of a railroad from Ivanhoe to Agincourt, Ont., both points being on the Canadian Pacific. This line is promoted in the interest of the C. P. R., to give connection with a number of towns on the lake shore now touched by the Grand Trunk.

**CHICAGO & ALTON.**—Press reports state that this Company will rebuild its branch line between Mexico, Mo., and Jefferson City, 45 miles, filling in all the trestles.

**COLORADO, HOPE & SHELBYVILLE (ELECTRIC).**—Surveys have been begun for this proposed electric railroad from Columbus, Ind., northeast to Hope, and thence north to Shelbyville, a distance of 30 miles. The road as proposed will parallel the Cleveland, Cincinnati, Chicago & St. Louis, between Columbus and Hope. William Wright, Shelbyville, Ind., is engineer in charge of the surveys.

**COLUMBUS, GREENSBURG, CONNERSVILLE & RICHMOND (ELECTRIC).**—Surveys have been begun for this electric railroad from Columbus, Ind., through Greensburg and Connersville to Richmond, 100 miles. Rights of way have been secured, and it is stated that contracts for grading will shortly be let. C. N. Wilson, Indianapolis, is general manager. (January 8th, p. 34.)

**CUMBERLAND VALLEY.**—Surveys are reported in progress for a freight cut-off from a point one and one-half miles south of the Mason & Dixon line to a point near the Potomac River, below Williamsport, Ind. The proposed line will pass west of Hagerstown, and will avoid the heavy grades at Maugansville, Md.

**DES MOINES & MISSOURI.**—Contracts for building this line from Des Moines, Polk County, in a southerly direction into Wayne County, Iowa, will be let in the spring. The surveys have been made and a large part of right of way has been secured. The line will run southeast from Des Moines to Sandyville, thence south, crossing the C. B. & Q. at Zero, Iowa, and the Keokuk & Western about two miles east of Promise City. Over \$200,000 of taxes have been voted by townships through which the line will run. G. G. Wright, Des Moines, Iowa, is President. (Nov. 13, 1903, p. 822.)

**DUBUQUE & WESTERN.**—Surveys have been completed for this proposed railroad from Dubuque, Iowa, southwest through Cascade to Monticello, 40 miles. The Midland Railway Construction Company will build the road and grading will be begun early in the spring. Connection will be made with the Chicago, Milwaukee & St. Paul at all three points. Rights of way are now being secured. J. F. Lacock, Dubuque, Iowa, is the engineer in charge of the work.

**FELICITY & BETHEL.**—Articles of incorporation have been filed by this company in Ohio. It is proposed to build from Felicity north to Bethel, 10 miles. Connection will be made with the Cincinnati, Georgetown & Portsmouth at Bethel. S. F. Kennedy, J. W. Hayden, T. J. Donald,

W. A. Gregg and others, of Felicity, Ohio, are incorporators.

**GRANGER, GEORGETOWN, AUSTIN & SAN ANTONIO (M. K. T.).**—An officer writes that work is now in progress

between Pflugerville, Texas, and Sprinkle. The Grigsby Construction Co., of Georgetown, has the contract for grading and the bridge work is being done by the M. K. T.'s own forces. The road, which is projected to run from Granger, Texas, south to Austin, was completed as far as Granger, a distance of 18 miles, in May, 1903. The character of the present work is light, with a maximum grade of one per cent. and a maximum curvature of three degrees. It is stated that as soon as the line is completed to Austin, it will be extended southwest to a connection with the San Antonio & Aransas Pass R. R. at San Marcos, Texas. S. P. Fisher, St. Louis, Mo., is in charge of the work. (May 8th, 1903, p. 336.)

**GRANITE CITY, ALTON & EASTERN.**—Articles of incorporation have been filed by this Company in Illinois to build a railroad from Granite City north to Alton, 20 miles. G. E. Chamberlin, St. Louis; J. D. McAdams, Alton, and R. A. Bostwick, Granite City, are incorporators.

**GULF, COLORADO & SANTA FE.**—This Company has completed its branch line from Bragg, Texas, to Saratoga, a distance of 10 miles. The line will be open for traffic on February 1st. C. E. W. Felt, Galveston, Texas, is Chief Engineer. (Nov. 20, p. 838.)

**HOLLINS, HEFLIN & SYLACAUGA.**—This Company has completed its extension from Wildwood, Ala., to Woodvine, 3 miles. Grading is now in progress from Woodvine to Rockford, 24 miles. J. A. Edwards, Hollins, Ala., is Chief Engineer. (August 28th, 1903, p. 624.)

**IOWA, ILLINOIS & WISCONSIN (ELECTRIC).**—Surveys have been completed for this electric line from Dubuque to Plattville, Wis., 30 miles. Rights of way are now being secured, and it is stated that contracts for grading will be let early in the spring. Peter Keine, Dubuque, Iowa, is President. (April 17th, 1903, p. 290.)

**KANSAS CITY, MEXICO & ORIENT.**—Press reports state that 41 miles of line from Port Stilwell east have been opened for traffic. A force of men is now building the line westward from Chihuahua and when a cut is made through the Sierra Madre Mountains the lines will be connected. (Nov. 20, 1903, p. 838.)

**LONE ROCK & LA VALLE.**—Articles of incorporation have been filed by this Company in Wisconsin. It is proposed to build from Lone Rock, Richland County, Wis., north to La Valle, 35 miles. The names of the incorporators are not stated.

**MEXICAN ROADS.**—A concession has been granted to E. B. Tolman and associates, of Chicago, for building and operating a railroad from Alamos in the State of Sonora, Mexico, to the Port of Yabaro, on the Gulf of California, a distance of 80 miles. The franchise also permits the building of 75 miles of branch lines.

**MINERAL POINT & NORTHERN.**—This road will be built from Highland, Wis., to Linden, 12 miles, by the Empire Construction Co. A survey was made between these two points five years ago, but no work was ever done on the road. D. L. Merrill, Chicago, Ill., is President, and R. W. Miller, Highland, Wis., is Secretary.

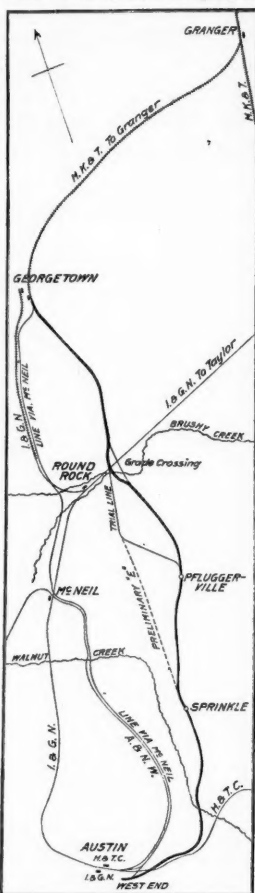
**NEW BRUNSWICK ROADS.**—The Canadian Coal Line Company, of Coal Branch of N. B., will make application at the next session of the New Brunswick Legislature for power to build from Coal Branch on the Intercolonial to the lines of the Company, 8 miles, and from Coal Branch to Richibucto Harbor, 16 miles. J. P. Geddes, Coal Branch, N. B., is said to be interested.

**NEW YORK & JERSEY.**—This Company completed 113 ft. of its tunnel under the North River during the past week. Only 325 feet remain to be bored through, and President W. G. McAdoo has stated that the physical work of the tunnel will be completed by March 1st, and that trains will probably be running by January 1st, 1905. (For description of the tunnel, see our issue of November 27, p. 840.)

**NEW YORK CENTRAL & HUDSON RIVER R. R.**—A contract has been awarded to Charles A. Sims, Philadelphia, for a single track change of line of 1½ miles on the Mahopack Branch of the New York & Harlem Railroad, near Golden Bridge, N. Y. (Nov. 6, p. 804.)

**OZARK & CHEROKEE CENTRAL.**—It is stated that this road, which runs from Fayetteville, Ark., to Okmulgee, Ind. T., will be extended to Shawnee, Okla. T., a distance of 75 miles. Surveys are reported in progress. C. D. Pardon, St. Louis, Mo., is Chief Engineer. (December 18th, 1903, p. 912.)

**PENNSYLVANIA.**—It has been officially announced that President Cassatt has authorized plans and improvements on the Pennsylvania lines between New York and Pittsburgh, involving an expenditure of nearly \$70,000,000. The work is exclusive of the North and East River tunnels and the New York terminals. According to the plans prepared, it is the purpose to four-track the road from Jersey City to Pittsburgh, and in some places to build six tracks. Grades are to be reduced and many curves eliminated. The work of replacing old bridges with massive stone and steel structures will also be continued. One of the important changes said to be included in the plans is the straightening of the line through the Allegheny Mountains. More than \$1,000,000 will also be spent on im-



provements between Pittsburg and Altoona, a distance of 116 miles.

**PORTO RICO RAILWAY, LIGHT & POWER CO.**—An officer writes that surveys have been completed for a new railroad from San Juan through Caguas, Cayey and Juna Diaz to Ponce, 85 miles. Grading will be begun on February 1st by the contractors who are the West Indies Construction Company, 651 Drexel Building, Philadelphia. The work will include two tunnels and four iron bridges, and contracts for the bridges will be let about April 1st. W. M. Yeager, of the Vandegrift Construction Company, Philadelphia, is Vice-President of the railroad.

**SAN DIEGO EASTON.**—Articles of incorporation have been filed by this Company in California. It is proposed to build from San Diego, Cal., to Yuma, Colo., 200 miles. G. W. Marston, C. N. Clark, C. W. French and others, of San Diego, are incorporators.

**SOUTH BEND & SOUTH MICHIGAN.**—An officer writes that this Company has completed its line from South Bend, Indiana, to Niles, Michigan, 10½ miles. As soon as the weather permits, work will be begun on the further extension from Niles to St. Joseph, 16 miles. The work will include three steel bridges, ranging from 70 ft. to 310 ft. in length. A. J. Hammond, South Bend, Ind., is Chief Engineer. (May 8, p. 336.)

**SOUTH GEORGIA & WEST COAST.**—This Company has completed 16 miles of track on its extension from Greenville, Fla., to Perry, a total distance of 26 miles. Grading is in progress on the remaining portion of the road, and the entire line will be open for traffic early in the spring. J. W. Oglesby, Quitman, Ga., is President. (August 14, p. 594.)

**SPOKANE & KOOTENAI.**—Press reports state that surveys have been completed for this new road. The proposed route is from Spokane, Washington, to Rathdrum, Idaho, and thence via Sand Point and Bonner's Ferry up to Kootenai River to a connection with the Canadian Pacific on the Canadian boundary of the line. D. C. Corbin, Spokane, Wash., is one of the incorporators. (April 17, p. 290.)

**UNADILLA VALLEY.**—This Company has been incorporated with a capital of \$200,000 to operate the property and franchise of the Unadilla Valley Ry. Company, which was sold under foreclosure proceedings January 4th. The principal office of the new Company will be located in New York City. The old road runs from Bridgewater, N. Y., to New Berlin, 19 miles.

**UNION TRACTION.**—Incorporation has been granted this Company in Kansas to build an electric railroad from Caney east to Coffeyville, and northeast to Independence and Neodesha, 50 miles. W. M. Ness, Independence; F. D. Benson, Coffeyville; R. C. Finch, Indianapolis, and others are incorporators.

**WESTERN PACIFIC.**—It is reported that this Company will change the route which has already been located for its proposed line across the Sierra Mountains in California. The original survey ended above Cana, but will be continued down to Chico and Marysville, Cal. The Company is directing this work from its office at Chico, Cal. (September 11, 1903, p. 660.)

**WHITEHORSE & ALASKA.**—Application will be made at the next session of the Dominion Parliament for the incorporation of a company to build from Whitehorse, in Yukon T., to Dawson City. Livingstone, Garrett & King, Vancouver, B. C., are said to be interested.

**WINFREDE R. R.**—This Company has completed an extension of 3½ miles from Winfrede, W. Va., to Coopersville. The road runs at present between Winfrede and Winfrede Junction, a distance of 7 miles. R. B. Cassady, Winfrede, W. Va., is general superintendent.

**WINNIPEG, SELKIRK & LAKE WINNIPEG.**—Application will be made at the next session of the Manitoba Legislature for power to complete an extension of the main line of this road to Tyndall, and north to the Winnipeg River, at Fort Alexander. The road runs at present between Winnipeg and Selkirk. F. B. Warren, Winnipeg, Manitoba, is Secretary of the Company.

## GENERAL RAILROAD NEWS.

**BALSTON TERMINAL.**—This road, which is 13 miles long, will be sold at Saratoga, March 8, by Walter P. Butler, Referee, on a judgment granted by Justice H. T. Kellogg, in favor of the Adirondack Trust Co., holder of receiver's certificates on which payment had been defaulted.

**FOREST CITY & GETTYSBURG.**—In accordance with a decree of Judge Carland, of the United States Court at Sioux Falls, this road has been sold to James Dodd, who acted in behalf of the New York bondholders. The sale was to satisfy a mortgage sought to be foreclosed by suit instituted by the New York Security & Trust Co. The road runs from Forest City to Gettysburg, 22 miles. (Dec. 25, 1903, p. 930.)

**LOUISVILLE & NASHVILLE.**—J. P. Morgan & Co. are offering, at 96½ and interest, \$23,000,000 4 per cent. collateral trust 5-20 gold bonds. This is a part of its issue of \$30,000,000, and the proceeds from the sale of these bonds will be used in part to reimburse the Company for the redemption of bonds of subsidiary companies, \$2,500,000 for the purchase of the Atlanta, Knoxville & Northern stock, and \$7,870,000 for building the Knoxville, LaFollette & Jellico R. R. from Knoxville to Jellico, 52 miles.

**NEPIGON R. R.**—Application will be made at the coming session of the Ontario Legislature for power to operate a steam ferry across Lake Nepigon to connect the two sections of the railroad from Nepigon Bay on Lake Superior to the Albany River, Ont. Jas. Conmee, Port Arthur, Ont., is interested.

**OREGON SHORT LINE.**—One-half of one per cent. will be paid on February 1 to the holders of record January 23 of the Oregon Short Line R. R. Company's 4 per cent. and registered bonds. This is in addition to the 2 per cent. regular dividend which is paid on these bonds.

**ST. LOUIS & SAN FRANCISCO.**—This Company has sold \$5,000,000 four per cent. refunding gold bonds to investors in Germany. The Handels-Gesellschaft, of Berlin, were the fiscal agents of the "Frisco" in this transaction. These bonds are a part of an issue authorized in 1901. The remaining portion of this issue was reserved at that time to refund underlying issues and to pay for improvements and extensions.

**SOUTHERN PACIFIC.**—It has been announced that Speyer & Co. and Kuhn, Loeb & Co. have jointly purchased \$8,000,000 of the 4½ per cent. 2-5 year gold bonds of this company.